

TWEETING TWITTER: HOW TO MAKE INSTANT MESSAGES SLOW DOWN

Byeongwon Ha, Virginia Commonwealth University, Virginia, USA

ABSTRACT

About a century ago, media transported and stored messages only by utilizing their own materiality. In this regard, media as a vehicle had developed following their materials. These vehicles were physical and tangible, so people could read or feel their message without any electronics. However, since the advent of the telegraph, the vehicle is getting more and more invisible. In this context, communication and transportation have different meanings that were once interchangeable. People have lost the link between the vehicle of a message and its materiality. In the ubiquitous environment of instant messages, an interactive project, *Tweeting Twitter* (2013), synchronizes the physical transportation with the invisible transmission on Twitter by making instant messages slow down. As a result, this project shows how to escape from the instant message for a while by giving viewers some time and space to reflect on the instance of text.

INTRODUCTION

Harold Innis researched early data storage media such as papyrus, parchment and paper. In his book, *Empire and Communications* (1950), Innis explored how a certain medium can be popular based on its material. In this regard, media transported and stored messages by utilizing their own materiality. Some media maintained their usability for a long time, but other media disappeared soon after being introduced to the world. Innis insisted that popularity depended on diverse elements; for example, affordability, weight and resistance against aging. In this way, media as a vehicle had developed following their materials. These vehicles were legible and tangible, so people could read or feel their message without any electronics, which are essential to digital reading devices. However, since the advent of the telegraph, the vehicle is getting more and more invisible. In this context, communication and transportation have different meanings that were once interchangeable. [1] As a result, communication does not need a physical transportation any more.

Joshua Meyrowitz's media grammar literacy focuses on the unique "grammar" of each medium and the way in which the production variables of each medium interact with content elements. [2] This paper concentrates on media grammar literacy in relation to the materiality of media. Instant communication, the immaterial media, has already been popular in society. This technology encourages people to communicate with each other in real time. They simultaneously post their pictures and messages and reply to them on social networking sites. In this regard, as the technology advances, information is getting more and more ubiquitous and instantaneous. As a result, we have lost the link between a message and its materiality since the vehicle has become immaterial. Why don't we have some time to think about the meanings of the terms such as ubiquitous and instantaneous? To answer that question, I created an interactive work, *Tweeting Twitter*.

This project appropriates the Twitter website, one of the most popular social networking sites. The project virtually makes the invisible transmission the physical transportation as they once were interchangeable. This creates an in-between space between the keyboard and the Twitter website, namely, the virtual transportation space between the material input device and the immaterial digital image. The method involves an effective process to make mechanical process, which is nowadays ineffective because communication should be delayed to keep up with the simulating transportation. In this regard, the sense of the mechanical age revisits to interactive art with materiality. This project resists Edward E. Shanken's idea, in which art and technology were influenced by conceptual art. In other words, art and technology are getting immaterial as conceptual art is based on an idea instead of an object. [3] In doing so, viewers can see the quasi-physical transportation of their typing in real time in the in-between space. This visualization implies two important human communications. First oral speech, which is impossible to edit or correct texts and second, movable printing press, which is the first non-human text, but still a physical interface. Ultimately, this project explores how to escape from this instant message for a while by giving viewers some time and space to reflect on the instance of text. To maximize the effect, each letter is synchronized with its own bird's song. Users listen to diverse bird sounds when they type their message. This slow message project suggests an acoustic shelter from a huge number of instant messages by creating the in-between space and time as a bridge between communication and transportation.

BACKGROUND INFORMATION

In order to delay communication to synchronize with transportation, this paper explores an effective process to make an ineffective process. This part deals with a unique process, which some artists use to make an interesting flow of changing signals from an analog to a digital device or vice versa. First, Steina Vasulka is one of the first artists who used the changing signals. Second, Christa Sommerer and Laurent Mignonneau's *Life Writer* (2006) appropriate an old input device, a typewriter, as an interactive interface. Third, it explores this process in a deep way by using Toshio Iwai's two visual sound pieces. These clearly explain the flow of changing signals.

Violin Power

Steina Vasulka used her musical instrument, the violin, as a playback interface in *Violin Power* (1970-78, 1991). This is a significant real-time interactive piece for two reasons. First, this appropriates a musical instrument to manipulate another medium, visual images. Second, this simultaneously generates visual and sound images in real time. This has an important role of tracing the meaning of the appropriated interface in interactive art. It

fundamentally suggests the relationship between *Violin Power* and the interactive sound/visual performance piece. *Violin Power* is the milestone piece in interactive art with a musical instrument unlike some current interactive works, which use loose interfaces between viewers and them.

Vasulka originally used a microphone to make an interactive performance in *Violin Power* and then developed the work by using a MIDI interface. The technology makes her manipulate a video clip in several functions. [4] This fact explains that she can be a great bridge between Nam June Paik and Toshio Iwai.

Paik is well known as a pioneer of video art. However, he is also a pioneer of interactive art. This is not a new approach. William Kaizen explored participatory qualities of his interactive art in Nam June Paik's early pieces. He described that Paik tried to overcome the passive aspect of mass communication. He made the one-way medium, television, a two-way medium, *Participation TV*. [5] In the project, Paik used a microphone to manipulate visual images in real time. Before the video art, he generated these abstract images without any video device. Vasulka used this interaction to make her performance piece, *Violin Power*.

In one of diverse versions of *Violin Power*, she simultaneously created live violin sounds and controlled a short video clip, which consists of 30-seconds of her violin playing. The interaction created a real-time editing video and showed viewers unlimited video images. Using a musical instrument as an interface in the interactive performance was an avant-garde approach. *Violin Power* goes one step further by using her performance video clip. Even though there is no random algorithm or chance operation in her work, Steina Vasulka's performance, which is never repeated, allows viewers to experience visual and sound images at the same time. The appropriated object alternately changes into a musical instrument and into a playback controller in the tension of a live performance. The instrument reveals its materiality both by breaking the role and by observing the role. The tautological relationship between her playing an actual violin and her violin video playing on the screen behind her makes its role more ambiguous and ambivalent. Finally, it breaks viewers' presupposition about the musical instrument and makes them actively think of the plural materiality of the appropriated object.

Life Writer

Typewriters eliminate human characteristics due to their mechanic representation. [6] People cannot assume who writes a text any more. However, it makes focus on the content of the text beyond the typography. *Life Writer* encourages viewers to type a letter to generate virtual images on the paper in an old typewriter. It takes us to the history of the advent of typewriter again to change mechanical texts into organic shapes. The images, which are created by a typewriter, seem to be living creatures like ants. However, the objects are just images on a paper screen. That is the reason why viewers can read life and lifelessness in the work

simultaneously and feel uncanny. To be specific, an ant is a very early object that people witness intertwining feelings between living and dead at the same time. For example, ants carry a huge dead grasshopper both in a storybook and in the real world. Beyond the uncanny, this paper talks about algorithms in *Life Writer*. This work uses genetic algorithms in Artificial Life. Genetic algorithms simulate living creatures, so it has the process of population, mating pool, mates selected, mating, offspring and new population. To make it look alive, the algorithms include random algorithms, which can generate limited variation to objects. Random algorithms can help artists approach new methods to create their works. It is not surprising that chance operation can contribute to viewing new visions and perspectives. However, we should distinguish between an analog chance operation from dice and a random algorithm based on a computer. Because a random algorithm follows a computer program, it is just an intellectual code. In other words, it is not based on real material things like a die. [7]

The artists use an old typewriter to overcome the immateriality. To emphasize it, they have viewers touch the life writer directly instead of a computer keyboard. Chance phenomena are based on their own materiality. For example, when my son gave me his handmade die, I found that it did not equally generate random numbers. Since he could not make every surface equal, the die revealed that it thoroughly depended on its material, paper. The biased random number reveals what the die is made of. In other words, it has cause and effect based on its own materiality. The materiality generates the succession of a process and endows an object with its authenticity. That is the reason why the artists want simulated living creatures to gain a relationship with something tangible. The old object, a typewriter, generates seed numbers in the work. When viewers type letters, the texts are transformed into living objects instead of real letters on a paper. The living creatures follow the rule of genetic algorithms. The process talks about the changing era from text to image and from analog to digital. Finally, a combination between an old material and cutting-edge algorithms can help make diversity of interactive art. In this project, Sommerer and Mignonneau use a random algorithm as a core link between analog and digital devices. This is a seamless project, which changes signals from analog to digital without any delay.

Music Plays Images X Images Play Music & Piano as Image Media

One of the most popular Japanese media artists, Toshio Iwai, explores the intertwining realm between music and image in art galleries, technology conferences and video games. Whereas *Life Writer* focuses on random and generic algorithm, Iwai's works concentrate on synesthesia in performance art. In this regard, Iwai collaborated with a Japanese musician, Ryuichi Sakamoto in *Music Plays Images X Images Play Music* (1996~97). When Sakamoto played the piano, the abstract images from a projector were transferred from the keys on the piano into the air. Even though this project is not an interactive media for viewers, as a performance art, we can appreciate the elegant and artistic interactive

performance. In his previous work, Iwai originally used a trackball mouse and a horizontal screen instead of the professional pianist. His famous sound project *Piano as Image Media* (1995) uses a trackball mouse to transfer signal from viewers to piano to screen. Even though the trackball mouse itself is an analog device, it helps convert the physical position into digital numbers such as X and Y positions on a virtual coordinate. The position makes dot images on the horizontal screen in between the trackball mouse and the piano; when each dot arrives at the piano's keys, a physical play occurs on the piano with real piano sounds. Finally, the physical piano play generates colorful abstract images above the piano. Iwai appropriates two different analog interfaces such as trackball mouse and piano. This selection makes the project more ineffective by adding one more changing signal to a whole process. By moving the ball, viewers can easily make sounds, but it is a little bit delayed while they witness the process of transporting the signal on the two screens. Furthermore, because the movement of the analog mouse is continuous, viewers will listen to gradient sounds and see images side by side. In other words, although viewers aggressively interact with the work, the result is not radical but smooth. In this project, the interaction with viewers, subsequent sounds and images are in harmony.

The Flow of Signal

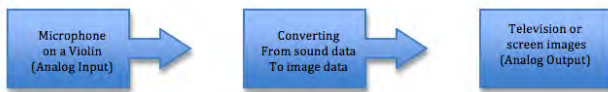


Fig. 1. The flow of *Violin Power*.

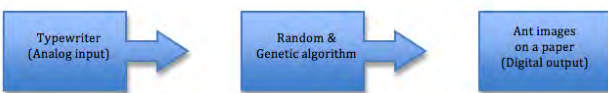


Fig. 2. The flow of *Life Writer*.



Fig. 3. The flow of *Music Plays Images X Images Play Music*.

As these diagrams show, *Violin Power*, *Life Writer* and *Music Plays Images X Images Play Music* have a similar process of visualizing analog inputs. *Violin Power* shows a transition between a sound input and a real-time image. The analog input manipulates images on television or screen. *Life Writer* and *Music Plays Images X Images Play Music* have a transferring process from an analog input to digital images. They use physical and historical devices, which are now replaced with digital devices, such as a computer and a digital piano. However, *Piano as Image Media* has a more complex procedure. In this work, the previous process

happens twice. This makes the project more ineffective. However, at the same time, the hide-and-seek process makes viewers enjoy the flow of the data delivery. This process makes the flow of immaterial signals visible. It can be effective to embody a synchronizing process between communication and transportation. I intentionally use this process to visualize the immateriality of transferring instant messages on Twitter.

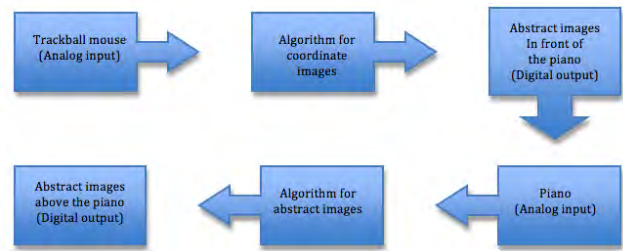


Fig. 4. The flow of *Piano as Image Media*.

THE PROJECT

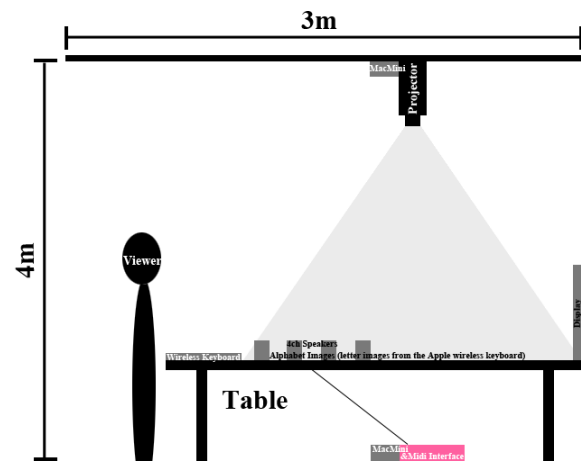


Fig. 5. The description of *Tweeting Twitter*.

Twitter, the online social network, is more similar to oral speech than writing due to its instant quality. However, there are a lot of controversial issues on the website because of the ambiguous boundary between oral speech and writing. Even though a politician uses Twitter for a casual chat, the message can be criticized by people like a public opinion in a journal. Some controversial issues are often retweeted and can be an opinion in a public sphere regardless of the original intentions. *Tweeting Twitter* explores the gap between oral speech and writing and emphasizes it by visualizing the image of communication. The project consists of three steps. Viewers type their messages on the wireless keyboard. It's a physical input action. Second, the input message is synchronized with the projected images, which have the same letter images on the keyboard, in a column in the center of the table. In real time, on the table, they can see their letters that they have just typed. The text images on the table move from the wireless keyboard to the screen as if the letter

images come from the keyboard. The same images of the real keyboard and the virtual keys can make the simple illusion that the physical keyboard moves to the display. These images on the table can also remind us of movable printing, which is the first mass production for media and also the conveyor system, which is the first effective mass production system. Finally, the display shows the posting of the same message on Twitter after receiving the texts from the letter images on the table. In other words, viewers experience the same messages with some delay on Twitter. In sum, my project consists of the process from a physical input to a visual representation of letters transportation to a real representation of the physical input.

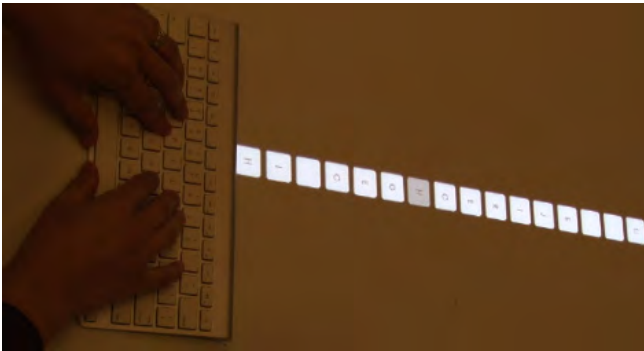


Fig. 6. The input part of *Tweeting Twitter*, 2014, Byeongwon Ha, Interactive art, © Byeongwon Ha.

In this project, I try to maximize the gap between typing and posting on Twitter. Sometimes a viewer might want to correct or edit their texts during the transfer. But they cannot change anything after clicking the enter key. The project does not have a function for editing the data at all. Viewers just witness the flow of their message. So they experience a very physical procedure, which is similar to a pitcher who throws a ball to the catcher. The invisible communication is resurrected with a visible continuity. At the same time, viewers can think about the relationship between communication and transportation. To witness their messages on the Twitter website, they need to see virtual letters on the table, which moves from the real keyboard to the screen. Since each key synchronizes with a unique bird song, users can listen to diverse tweeting sounds with their tweeting messages. To the extreme degree, they can use the interactive project as an instrument for concrete music, with progressive musician appropriated noise and pre-recorded sounds from their database in an avant-garde way regardless of the meaning of their message.

METHODOLOGY

Tweeting Twitter deals with three different procedures to visualize the synchronizing process between communication and transportation. First, viewers type their messages on Tweet. It's a habitual activity. This project appropriates this routine activity to make an interactive work. Second, the program temporally collects the text to extend the time to convey messages. It visualizes the flow of the text from the keyboard to the display.

Viewers see the process of transferring their messages. They can't intervene after typing the enter key. Third, at the very moment when the last letter arrives at the display, viewers can see their post on Twitter. By dividing the Tweeting activity into the three parts, this project explores how to create the effective process to make an ineffective process. In the end, the ineffective process helps viewers retrieve some physical time to convey media.

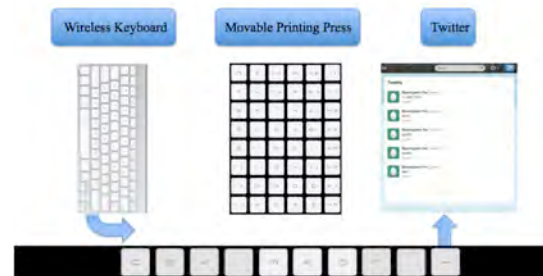


Fig. 7. The flow of signals in *Tweeting Twitter*.

Tweeting Twitter is created by Max6, which is visual programming for visual, sound and interactive artists. It is not a perfect program for using a real website because it is difficult to represent the website interaction. Even though the jweb object easily allows a Max6 user to appropriate a ready-made website in his work, the object does not permit any manipulation on websites except for basic preferences such as a window size and a website address. Using some external objects helps artists who are not good at programming overcome the problem. In the project, I used the aka objects created by Masayuki Akamatsu who is a professor at IAMAS in Japan. Especially, the aka.mouse object automatically allows artists to control the mouse position and take the cursor key to a specific position, the typing box and the post button on the Twitter website. The aka.keyboard object types messages, which were stored from the viewers. Even though I don't have any knowledge on hacking a website, by using these controlling objects, I could make an interactive piece, which controls viewers' messages.

Since Max6 is a powerful sound program, I could simply add diverse bird songs to the piece. Each key has its own bird song except for the space bar key, which has a stream sound. The upper case letter means loud sound whereas the lower case letter means the same sound with a soft volume. These alphabet letters have bird songs that I recorded by using a microphone near the exhibition whereas special characters have bird songs from the free sound websites. This implies that letters are chosen by a physical place where the project exhibits whereas special characters are universal wherever we are. This method is that the project returns the first idea, which makes Twitter tweet. When viewers type any letter or special key, they can listen to diverse bird songs and the streaming sound from the four channel speakers. Making Twitter tweet can be a pun. However, this decision makes the project more exciting and enjoyable to the viewers. It can make the messages slow down to listen to these discrete bird songs.

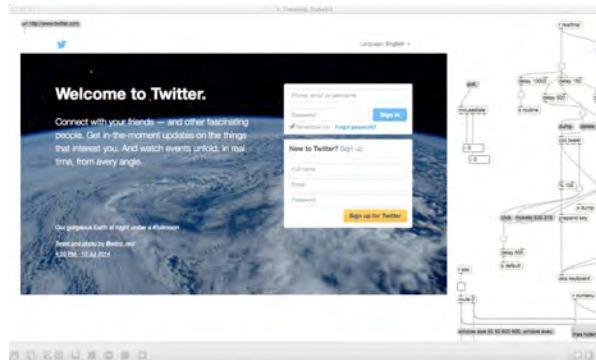


Fig. 8. The *jweb* object on the *Tweeting Twitter* patch.

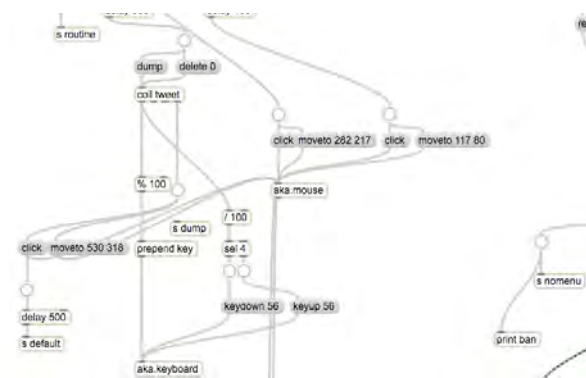


Fig. 9. The *aka.mouse* and the *aka.keyboard* object on the *Tweeting Twitter* patch.

In the final patch, to improve the resolution of each letter, the project uses the *jit.gl.videoplane* object instead of the *jit.glue* object. This decision has two great advantages. First, this project has a very long single line with letter images. If this project uses the *jit.glue* object, the resolution of a whole images on the table is bigger than 4K (about four-times better quality than High Definition format). Even though I only use a narrow column on the whole screen, the *jit.glue* object renders a whole resolution. This makes the project sluggish. However, the *jit.gl.videoplane* object effectively assigns each letter image on the screen by using Open GL. Although this object needs some mathematics to make each letter image precisely move one by one on the screen, it can give viewers a better resolution. We could not see legible letters on the table unless the project uses the specific object. Although a user can post 140 words on Twitter, this CPU capacity suggests 70 words since several elements should be considered such as a resolution, a projector's condition and a screen size. It is the decent performance of my 2.8 GHz Intel Core 2 Duo MacBook Pro. If I use another programming such as processing, I could easily get a decent letter image. However, it is hard for me who is not good at programming to play diverse pre-recorded files and appropriate a ready-made website in a text-based programming. The most important thing is that I could make it by myself. To me, Max6 is the perfect choice to make interactive art without any helps from a technician.

CONCLUSION

This project started with a simple idea that synchronizes communication with transportation. However, it involves an effective process to make the ineffective process. It is a paradox, but in order to make communication transportation once again, this is a mandatory process. This process visualizes the changing flow of analog and digital signals. The signals in the air are captured by the physical space that shows virtual letter keys. By identifying the size of the letter images with the real key size of the keyboard, the project can emphasize the seamless flow of the signals from the keyboard to the display. With diverse bird songs, viewers can listen to them before their message arrives on the Twitter website. The short moment can allow us to witness moving letters on the table. This defers our message and presents a sound installation.



Fig. 10. The output part of *Tweeting Twitter*, 2014, Byeongwon Ha, Interactive art, © Byeongwon Ha.

We can easily post our texts on the Internet. People can immediately talk on blogs or social networks. In this regard, this project encourages people to think about what they post. This is not only about the content of it, but also the action of it. *Tweeting Twitter* gives people some time to think about the instant message itself and some space to objectively reflect on their action with bird songs in nature. This is an auditory shelter from a plethora of instant messages.

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